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February Precipitation Over the Great Lakes

As a percentage of the long-term February average:

Great Lakes Basin	76%
Lake Erie (including Lake St. Clair)	111%
Lake Superior	63%
Lakes Michigan-Huron	70%
Lake Ontario	92%

Note: These figures are preliminary.

LEVEL news
Great Lakes - St. Lawrence River Water Levels

Volume 6, Number 3 **March 5, 1998**

Snowmelt Starts Early

Levels Remain High on Lower Lakes

The water levels of Lakes St. Clair, Erie and Ontario remained 45 - 70 centimetres above average during February. Very mild temperatures during February over this area led to an early onset of snowmelt, which contributed to a larger than usual monthly rise in the levels of Lakes Erie and Ontario.

At the end of February, Lakes St. Clair and Erie were both about 70 cm above average, while Lake Ontario was 50 cm above average. Lake Erie's February level was the highest since 1987, while Lake Ontario's was the highest since 1993. Lake St. Clair's level was slightly lower than that of February 1997.

Levels on both Lakes Huron and Superior declined by an average amount during February. At the end of February they were 38 and 5 cm above average, respectively.

If very wet conditions should occur over the next several months, Lakes St. Clair and (continued on next page) Erie could rise to very close to record high levels, and Lake Ontario could rise to within 20 cm of its record high. However, there is reason for some optimism that this might not occur, as there is much less snow than usual left to melt on the ground, which should result in lower runoff.

There continues to be a very high risk of flood and storm damage along the shores of Lakes St. Clair, Erie and Ontario, especially during the next two months when storms can be severe. The risk is moderate for Lake Huron's shore, and low for Lake Superior's shore.

Dry Winter Over Lake Superior Basin

The winter months from December to February have been a very dry period over Lake Superior's basin. The water equivalent of the average total snowfall and rainfall over the basin is 13.8 cm. However, this winter the total has only been 9.4 cm, or 68% of average.

The dry conditions have led to below average amounts of snow on the ground. As a result, it is likely that runoff to Lake Superior this spring will be

February Outflows From the Great Lakes

As a percentage of the long-term February average:

Lake Superior	94%
Lake Erie	128%
Lake Huron	124%
Lake Ontario	128%

Note: These figures are preliminary.

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Summary information for "LEVEL*news*"

less than average, which could result in a relatively small increase in the lake's level during the spring. The outflow from Lake Superior to Lake Huron has been below average since last September, and a small spring runoff could result in a continuation of low outflows over the next several months. This would provide some relief to the high water levels on the other lakes.

Where's the Ice?

One of the many impacts of the mild winter has been an almost total lack of ice on the Great Lakes. By the end of February the only area with significant ice cover was the North Channel of Lake Huron. Lake Superior did have some ice cover earlier in the winter, but by month's end it was mainly confined to a few bays. For the first time since 1983, Lake Erie had virtually no ice the entire winter.

The absence of ice has increased the risk of damage to shore properties due to waves and flooding. The usual build-up of ice prevents waves from striking the shoreline, and it also reduces the amount of short-term surge in water levels that occurs when strong winds blow across a lake. This natural form of protection is absent this year.

Lake Ontario's Outflow Increased

After severe limitations on Lake Ontario's outflow during January due to complications arising from the ice storm and the formation of an ice cover on the St. Lawrence River, improved conditions during February permitted a higher outflow. The outflow was increased steadily from 5,500 cubic metres per second (cms) on January 9 to as high as 9,400 cms towards the end of February. The total outflow during February was only slightly less than the record high set last year for the month.

It is anticipated that the March outflow will also be very high. The breakup of ice cover on the St. Lawrence River can limit flows at this time of the year, but the river's ice has almost completely dissipated. However, depending on the timing and magnitude of the Ottawa River freshet, it may be necessary at some point to reduce the Lake Ontario outflow to prevent serious flooding on Lake St. Louis and below Montréal.

The International Joint Commission has invoked criterion (k) of its Orders of Approval for Lake Ontario-St. Lawrence River regulation. Criterion (k) gives precedence to shoreline property owners on Lake Ontario and the St. Lawrence River when setting the lake's outflow. In practice, this means that the outflow is being maximized without causing significant flood and erosion problems to property owners along the St. Lawrence River.

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